

UTILITIES

Green & Grey: Together We Win

Renewables to give huge opportunities Thermal to support with cash flows Utilities with balanced portfolio to win





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As energy transition gains momentum, utilities with a balanced portfolio and a long-term vision will see significant upside with coal supporting stable earnings and renewables giving growth. We have deep-dived into various plausible scenarios and global success stories to explore the positioning of Indian utilities for the future as we assume coverage.

UTILITIES

Green & Grey: Together We Win

The energy transition is real, irreversible & gaining momentum. Amidst this, the demand for power in India is on a sustained growth path with the generation mix balancing between sustainability and security. The agile utilities in India are successfully executing their transition strategy while harnessing the renewables growth opportunities. With plausible scenarios in sight and learning from global success stories (Orsted A/S, Engie SA, NextEra Inc.), we believe that utilities with a balanced portfolio and a long-term vision will see significant upside going forward with regulated conventional (Coal & Hydro) power assets supporting stable earnings and largely TBCB-based renewables giving growth.

We assume coverage on seven stocks with 'BUY' ratings on NTPC (best transition play from regulated business to Green), Power Grid Corp (ISTS opportunity and attractive Dividend yield) and CESC (attractive valuations). We have a 'HOLD' Rating on Tata Power (monitorables - Mundra PPA & pace of execution of RE), Torrent Power (monitorables – Gas Prices & PPA for untied capacities) and Coal India (monitorables - E-Auction prices, production growth sustenance, wage revision), and a 'SELL' Rating on JSW Energy (trading at expensive valuations; positives priced in). NTPC remains our top pick in the Utilities space.

It's no more Green vs. Grey...

We have seen significant ambiguity and uncertainties around the future power generation mix in recent years in India and the World. Renewables were often projected as the only way forward even in the short to medium term with aversion to coal. Historically, thermal (75-80% share) has been the major source of power in the country. However, renewables in recent years have rightfully captured the attention of all stakeholders (growing at a 5-year CAGR of 13%), including society, at the expense of coal.

Just a transitory resurgence of coal

We expect Generation to increase from 1,390BU in FY22 to 1,800-1,900BU by FY27 and 2,250-2,450 BU by FY32, which can be met by improvement in PLF of existing plants (recent average of <60% can go up to 73-75% as seen during Q1FY23 and prior to FY12) and gradual commissioning of under-construction projects (27GW Coal, 11GW Hydro, 1.6GW Pump Storage, 25GW Wind, 92.6GW Solar and, 7GW Nuclear). Hence, opportunities from coal remain uncertain and limited.

...it is both

While 'Grey' was contending with its prospects for the future, India saw power shortages for a very short time during mid-Jun'22- 405BU/401B demand/supply during Q1FY23. The government had to invoke Section-11 for all imported coal-based thermal power plants to mandatorily generate electricity. This along with the global energy crisis has brought long-awaited and much-needed balance in sustainability and security in the energy policy discourse. Coal has come back to the drawing board.

A balanced portfolio wins

Most of the RTM-based existing thermal and T&D assets enjoy long-term revenue and cash visibility. Growth opportunities will continue to emerge from renewables, particularly Solar, with the current annual capacity addition rate of >10GW expected to increase >15GW with the realisation of domestic manufacturing capacities and policy support. Hence, it's not Green vs. Grey. It's Green & Grey. Together we win.

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Executive Summary

- Demand & Supply: Three scenarios: The energy transition is real, irreversible, and gaining momentum. There is widespread consensus around this, with agile utilities looking at it as an opportunity for the next leg of growth. Today, considerable uncertainties are emerging from the geopolitical situation, societal expectations around actions on climate change, and supply chains. In the middle of these uncertainties, we see the emergence of three plausible futures up to 2032:
 - Black Bull: Robust economic growth with demand for power growing by 5.1%-5.8%.
 - Sea Base: With moderate success in increasing the share of manufacturing in the economy, power demand grows at a 10-year CAGR of 5.4%.
 - Green Bear: Protectionist measures in the global economy and resultant supply chain stress constrain India from achieving its potential. Demand for power grows largely as per the historical trend, i.e., 10-year CAGR of 4.9%.
- 'Green' wins: Renewables to grow at 12-14% CAGR in the next 10 years: We estimate that yearly generation will grow from 1,390BU¹ in FY22 to 1,800-1,900BU in FY27 and 2,250-2,450BU in FY32 for nil demand-supply deficit. Generation capacity too will grow from 400 Giga Watt (GW) in FY22 to 523-526GW in FY27 and 710-740GW in FY32 with renewables registering 12-14% CAGR over the next 10 years.

Renewables, particularly Solar, will continue to offer huge opportunities. The current annual capacity addition rate of more than 10GW is set to increase to at least 15GW with the realisation of domestic manufacturing capacities and policy support.

'Grey' can't be ignored: Together we will win

Coal will continue playing an important role in India's energy mix, but without sizeable and sustainable opportunities in future. Currently, 27GW of coal-based power generation projects is under construction. We believe that addition of another 5-15GW up to 2032 is possible under various scenarios, particularly under the Black Bull scenario. With this, the contribution of fossil fuel-based generation capacity will reduce from 61% in FY22 to 38-40% by FY32. Accordingly, generation from non-fossil (renewables & hydro) will increase from 14% in FY22 to around 30% by FY32.

Hence, Green & Grey together will win the game.

Outside-in perspective

We have studied three global utilities, viz., NextEra Energy Inc. USA, Orsted A/S, Denmark, and Engie SA, France. These companies, who once were dependent on thermal power (coal, gas, oil and related) for their power requirement, are successfully transforming themselves in alignment with the energy transition and creating significant wealth for their stakeholders.

-Ørsted (USD 39bn), the largest Danish utility, earned most of its revenue by selling heat and power in 2009, 85% of which came from coal. Then the company made a strategic shift with vision 85:15 - to generate 85% of heat and power from renewables by 2040. Today, Ørsted produces more than 90% of its energy from renewable sources and aims to improve that to 95% by 2023 and 100% by 2025 - hitting its target two decades ahead of schedule.

-Engie SA is a USD 37bn French integrated energy conglomerate offering a comprehensive range of energy services in around 70 countries. The 200-year-old company GDF Suez after being renamed Engie in 2015 made a strategy shift to promote decarbonised, decentralised and digitised energy. It innovated "energy transition as a service" for large companies and metropolises by helping them reduce their energy consumption and, hence, carbon emissions using Al.

-NextEra Energy Inc. (NEE) is the world's largest utility company (USD 170bn) headquartered in Florida, USA. Florida Power & Light Co. (FPL), with its origin in 1925,

¹ Billion Unit (BU) or Terawatt hour (TWh)

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was renamed as NextEra Energy in 2015, with a desire to become a leader in efficient and clean energy generation. It has invested more than USD 20bn mostly through a yieldco in building a renewable energy portfolio, becoming the world's largest developer of renewable energy assets.

Five Lessons Learned:

These success stories help us understand the key ingredients for a successful transition for utilities.

- i. All three utilities had a vision and took employees on board.
- ii. The transition has been gradual and structured, resulting in largely stable or even improving financial performance.
- iii. The transition was mostly financed through the divestment of conventional generation assets, rather than high leverage.
- iv. Innovations like the 'farm down' financing model; 'transition as service'; 'bulk-buying of 500 turbines'; or 'yieldco for renewables' were key to a stress-free transition.
- v. On a long-term basis, the transition has been a win-win proposition for both the company and the stakeholders.

Our preferred stocks

With plausible scenarios in sight and learning from global success stories, we believe that the utilities with a balanced portfolio and a long-term vision will see significant upside going forward with coal supporting stable earnings and renewables giving growth.

- NTPC, India's largest power-generating utility, is best positioned for success in the energy transition play. With an operational renewable capacity of 2.5GW and another 5.3GW of under-construction capacity, it has ambitions to reach 60GW+ by 2032. The competitive advantages it enjoys in terms of stable cash flows from existing thermal assets (70GW+), operational excellence, low cost of debt (AAA rating) and continuity of capex make it the top pick in our Utilities' coverage universe. The ensuing monetisation of its renewable portfolio via a strategic stake sale will further enhance the value proposition for its stakeholders. We assume coverage with a BUY rating and an FY25 TP of INR 205 (implying a 21% upside).
- PGCIL, India's largest power transmission utility, is well poised for the next leg of growth with upcoming auctions for ISTS as part of the Green Energy Corridor. The marquee 900-km INR 260bn (including storage capacity) Leh-Kaithal transmission project to transmit 10GW of renewable energy capacity being set up in Ladakh has already been awarded to PGCIL. We expect PGCIL to deliver c.6% EPS CAGR and c.7% dividend yield over FY22-25. We assume coverage with a BUY rating and an SOTP-based FY25 TP of INR 255 (implying a 18% upside).
- CESC is a fully integrated power utility with operations spanning the entire value chain: from coal mining to the generation and distribution of power. We find CESC attractively priced at 0.8x FY25E P/B with potentially steady earnings growth on i) moderating losses at franchises; ii) recent PPA tie-up at Dhariwal, and iii) steady growth in regulated profitability with limited earnings risk (c.81% of FY22 PAT). We expect CESC to be a potential beneficiary of the impending distribution sector privatisation, going forward. We assume coverage with a BUY rating and an FY25 TP of INR 100 (implying a 27% upside).
- Coal India, today is the largest coal producer in the world. Coal remains the primary engine of growth for the energy sector in India. During FY22, more than 70% of the power generated (1,490BU) was contributed by coal-based thermal power plants, which will be on a downward trajectory in the coming years due to the increasing share of renewables in the power generation. To meet the development needs of the country, the demand for coal is expected to consistently increase in the next decade a growth driver for Coal India Ltd (CIL), which contributes around 80% to the nation's entire coal output. Elevated e-auction prices and increasing dispatches due to import substitution and improving power have allowed CIL to report strong dispatch growth over the last year. However, going forward, we expect e-auction premiums to gradually cool off with easing

of power demand and moderation in international coal prices. We assume coverage on Coal India Ltd with a HOLD rating and a FY25 TP of INR 240 (implying 4% upside).

- Tata Power, the largest Indian integrated private power utility, is focused on the transition to cleaner fuels. With 14GW of installed capacity including 3.8GW of renewables, the company is targeting a 20GW+ portfolio of green capacity by FY27E by adding 3GW of capacity p.a. over the next 5 years. TPWR's regulated business provides long-term revenue and cash visibility. Although the ownership interest in Indonesian coal mines acts as a partial hedge against adverse fuel price movement for Mundra, the resolution of the PPA would be value-accretive. We assume coverage with a HOLD rating and an SOTP-based FY25 TP of INR 220 (implying 1% upside).
- Torrent Power, part of the Torrent Group, is an integrated power utility company operating in power generation, transmission and distribution businesses on a regulated business model, earning 14-15.5% return on regulated equity. It is also focussing on increasing its operational footprint inorganically through several strategic acquisitions to harness emerging opportunities from energy transition. For instance, during FY22, the company expanded its Renewable Energy portfolio (both solar and wind) by acquiring three renewable projects totalling 231MW of additional capacities, growing its RE asset base to 1,018MW. Another 715MW of renewable projects are under development. In its franchised distribution business, it is focusing on expanding and upgrading the network in existing areas and improving operations in the areas of Shil, Mumbra & Kalwa to minimise AT&C losses. However, we find peak gas prices and c.57% untied power generation capacity as an overhang to FY23/24 earnings. We assume coverage on TPW with a HOLD rating and FY25 SOTP-based TP of INR 490 (implying 7% downside).
- JSW Energy has a diversified business profile with a presence across power generation (thermal, hydro and renewable), transmission and trading. Currently, the total installed generation capacity stands at 4,784MW out of which renewable is 1,400MW (Mega Watt) while the under-construction portfolio stands at 2,200MW. The company has set a vision of becoming a green energy company with an installed base of 10GW by FY25, and 20GW by FY30 with a majority of incremental capacity coming from renewables. The availability of long-term PPAs for 85% of the generation portfolio provides long-term revenue and cash visibility. We believe the company is on the right growth track for energy transition but the same is already factored in the current valuations. The prevailing valuations are rich (12x FY25 EV/EBITDA; 32.3x FY25P/E). We assume coverage with a SELL rating on the stock with our FY25 SOTP-based target price of INR 245 (implying 18% downside).

The story so far

Green & Grey: Together We Win

Quantum of power demand and its supply mix has been a subject of considerable interest among industry players and policymakers from time to time. The discussion was reinvigorated in early FY23 due to unexpected spikes in power demand in Q1FY23. Subsequently, we heard a lot of discussion about the revival of capex in coal-based power plants. This was also reflected in the traction of stocks of companies with a major source of revenue coming from coal or related business. Amidst this, we have deep-dived into the past and future of the Indian power sector to have a better understanding of the demand and supply mix and estimate returns from utilities.

Power demand has been growing in India at a CAGR of 3.9% during the last 10 years.





Source: CMIE, CEA, JM Financial

For the first time in India, the pace of growth of supply of power (4.9% 10-year CAGR) was more than demand (3.9% 10-year CAGR) during FY13-22, leading to a gradual reduction in the deficit from 8-9% in FY13 to almost nil in FY22.



Utilities

During this period, the Indian power sector shifted a great deal, particularly in terms of the supply mix tilting in favour of renewables. The contribution of renewables in total power generation has increased to 11% in FY22 from 5% in FY16 while the contribution of coal-based generation has declined from 75% to 72% during this period.



Source: CEA, CMIE, JM Financial

This was supported by a continuous increase in generation capacity - thermal (Coal, Gas, Diesel) up to FY15 and renewables after that. Today, India has an installed renewable power generation capacity of more than 100GW out of which more than 70% has been installed during the last 8 years.



Source: CEA, CMIE, JM Financial



In FY22 itself, India added a record 15.5GW of renewable capacity.

Source: CEA, CMIE, JM Financial

A transitory resurgence of coal – Will it affect the renewables story?

Most recently, in mid-Jun'22, the country experienced power shortages due to sudden spikes in demand and lack of commensurate supplies. During Q1FY23, against the requirement of 405BU, the energy supplied was 401BU. There was a shortage of 1% of energy requirement. As a result, the government had to invoke Section 11 of the Electricity Act 2003 for all imported coal-based thermal power plants that mandate power utilities to generate electricity under "extraordinary circumstances". The shortage of coal at thermal power plants and early summer were some of the reasons attributed to this crisis.



Source: CMIE, JM Financial

This along with the fragility seen in the global energy supply chain due to the Russia-Ukraine war has brought long-awaited and much-needed balance in sustainability and security (energy) in the policy discourse resulting in a clarion call for the revival of thermal capex. The attention of policymakers is being redirected to coal. As per media reports, the government has asked NTPC for swift ordering of new thermal power plants.

The tendering activity for the award of new coal-based power projects has been restarted after a long haul.

'Coal' is sensing an opportunity to regain lost ground.

What does the future look like?

Demand & Supply: Three scenarios

India remains the bright spot on the global economic development landscape with an aspiration to become a USD 5trn economy in the near future. This entails a consistent increase in demand for power, primarily driven by the expected increase in the share of manufacturing, urbanisation and demography. According to the World Economic Outlook Report 2022 released by the International Monetary Fund (IMF) on 11th Oct'22, India is expected to overtake Japan and become the third largest economy in 2027-28 after the United States and China.



Source: World Economic Outlook, IMF, October 2022, JM Financial

However, emerging geopolitical developments, evolving negotiations and cooperation around climate change, and the tough trade-off between energy security and sustainability makes our future uncertain and exciting. Instead of considering the past, present and future to be in a straight line, we have explored the range of possible pathways to visualise the future, which consists of:

- Set of critical certainties:
 - The energy transition is real, irreversible & gaining momentum.
 - India has come a long way with almost 100% electrification and the success of renewables. With demographic dividend on its side, demand for power is set for sustained growth unlike in developed nations where it is moderating.

And

- Set of critical uncertainties:
 - Shape of economic growth amidst fear of global recession and high inflation while having healthy corporate balance sheets and political stability on the domestic front.
 - Contours of global cooperation for sharing technology and resources amidst the urge for de-globalisation after the Covid pandemic and the Ukraine crisis.

We believe that the plausible future up to 2032 will revolve around two critical uncertainties, 1) Indian economic growth (growing / slowing) and, 2) Global economy (Collaborative / Protectionist)

Exhibit 8. 2X2 Scena	ario matrix for plausible fu	tures up to 2032							
Protectionist, regional economies									
Slowing India	Nations limited to local resources & technologies to address challenges. Indian economy continues to struggle. Govt resorts to populist measures.	A world where local energy transition objectives take precedence, creating disjointed systems. Indian economic growth too improves marginally.	Growing						
	Nations galvanize & commit to growth and stability for all. India continue to face challenges with fractured polity and lack of reforms.	World united after a series of climate shocks. India takes major structural reforms successfully harnessing scale benefits of India's size and population.	India						
Open, collaborative, global economy									
Source: JM Financial									

We know that no single scenario is going to fully materialise in the future. These are not clear-cut predictions. Rather, they are hypotheses about tomorrow to help us better

Against this backdrop, we see the emergence of three plausible futures:

Black Bull (BB)

comprehend the demand drivers today.

Utilities

Globalisation is back with major structural reforms in India. This leads to major growth momentum in India: 6.8% during FY23-25, 7.3% during FY26-30, and moderating to 6.7% thereafter. The government goes for a major push for investment in the infrastructure sector. Power demand grows by 5.1%-5.8% similar to the assumptions in Central Electricity Authority's (CEA) 20th Electric Power Survey (EPS). In this growth (Bull) scenario, India will need to enhance its coal-based power (Black) generation capacity by another 20GW in addition to under-construction capacities, hence the 'Black Bull'.

Sea Base (SB)

India's economy improves gradually primarily on domestic demand. The government prioritises social and labour-intensive development. The national endeavour to enhance the share of manufacturing moderately succeeds. The economy grows at 6.5% during FY23-25, 7.0% during FY26-30 and, then moderates to 6.2%. In this Base scenario, the demand for power grows with a 10-year CAGR of 5.4% but with wavy (Sea) growth and sentiment as also assumed in the IEA's World Energy Outlook 2022. India can meet its power requirement with the addition of under-construction capabilities and may also require new additions of 8-9GW subject to the level of success of Hydro and Nuclear power additions.

Green Bear (GB)

Protectionist measures dominate the global economy. Supply chain stress constrains the success of manufacturing. The Indian economy struggles to achieve its potential. The government resorts to social expenditure and nationalistic rhetoric. The national endeavour to enhance the share of manufacturing moderately succeeds. The economy grows at 6% during FY23-25, 6.6% during FY26-30 and, then moderates to 6.0%. Demand for power grows largely as per the historical trend, i.e., 10-year CAGR of 4.9%. In this Bear scenario, India will not require to order new coal-based power capacities beyond under-construction ones. The non-fossil fuel-based power generation (Green) capacity additions are sufficient to meet the power demand of the country.

How much power is India going to require?

With these plausible futures in mind, we have done extensive modelling of the demand and supply of power for the next 5 and 10 years under multiple scenarios.

Exhibit 9. Key Assumptions & estimates											
Year	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
Economic growth, %											
Black Bull	8.7%	6.8%	6.8%	6.8%	7.3%	7.3%	7.3%	7.3%	7.3%	6.7%	6.7%
Sea Base	8.7%	6.5%	6.5%	6.5%	7.0%	7.0%	7.0%	7.0%	7.0%	6.2%	6.2%
Green Bear	8.7%	6.0%	6.0%	6.0%	6.6%	6.6%	6.6%	6.6%	6.6%	6.0%	6.0%
Power demand growth, %											
Black Bull	7.9%	10.0%	5.1%	5.1%	5.5%	5.5%	5.8%	5.8%	5.8%	5.4%	5.4%
Sea Base	7.9%	9.5%	4.6%	4.6%	5.0%	5.0%	5.3%	5.3%	5.3%	4.9%	4.9%
Green Bear	7.9%	9.0%	4.1%	4.1%	4.5%	4.5%	4.8%	4.8%	4.8%	4.4%	4.4%
Gross Generation , BU											
Black Bull	1492	1641	1725	1813	1912	2017	2134	2259	2391	2519	2654
Share of non-fossil, %	14%	15%	16%	17%	18%	20%	21%	23%	24%	26%	27%
Sea Base	1492	1634	1709	1787	1876	1970	2075	2186	2302	2414	2532
Share of non-fossil, %	14%	15%	16%	17%	18%	20%	21%	23%	25%	27%	29%
Green Bear	1492	1626	1693	1762	1841	1924	2017	2114	2217	2313	2414
Share of non-fossil, %	14%	15%	16%	17%	18%	20%	21%	24%	25%	27%	29%
Generation Capacity, MW											
Black Bull	399	418	440	464	487	526	565	609	651	695	739
Share of non-fossil, %	39%	42%	44%	45%	47%	50%	52%	54%	57%	58%	60%
Sea Base	399	418	440	463	486	523	562	604	647	684	721
Share of non-fossil, %	39%	42%	44%	46%	47%	50%	52%	55%	57%	59%	61%
Green Bear	399	418	440	463	486	523	562	599	637	674	711
Share of non-fossil, %	39%	42%	44%	46%	47%	50%	52%	55%	58%	60%	62%
Peak Gen Capacity, GW											
Black Bull	203	211	218	226	233	244	261	273	284	296	308
Sea Base	203	211	218	225	232	242	259	269	281	288	295
Green Bear	203	211	218	225	232	242	259	266	273	280	287

Source: JM Financial